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10/601,832	06/24/2003	Michael Werth	ATOCM-332	9062

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EXAMINER	
AUGHENBAUGH, WALTER	
ART UNIT	**PAPER NUMBER**
1772	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/601,832	WERTH, MICHAEL	
	Examiner	Art Unit	
	Walter B. Aughenbaugh	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9/29/06,10/26/06 and 10/31/06*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *8 and 19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on September 29, 2006, October 26, 2006 and October 31, 2006 have been entered.

Acknowledgement of Applicant's Amendments

2. The amendments made in claim 1 in the Amendment filed September 29, 2006 (Amdt. B) have been received and considered by Examiner.

3. New claims 11-19 presented in Amdt. B have been received and considered by Examiner.

4. The amendment made in claim 13 in the Supplemental Amendment filed October 26, 2006 (Amdt. C) has been received and considered by Examiner.

5. The amendment made in claim 13 in the Supplemental Amendment filed October 31, 2006 (Amdt. D) has been received and considered by Examiner.

6. Claim 9 should be identified as "(Previously Presented)" in Amdt. B: the amendment indicated in Amdt. B was made in the Amendment filed August 9, 2005.

7. Claim 8 should be identified as "(Withdrawn)" in Amdt. B, C and D: claim 9 was withdrawn in the Office Action mailed March 7, 2005.

Election/Restrictions

8. Newly submitted claim 19 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the inventions (Group I, claims 1-7 and 9-18; Group II, claims 8 and 19) can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the process for using the product as claimed can be practiced with another materially different product such as a pipe having a single sealing layer. Paragraph 2 of Restriction Requirement mailed August 16, 2004 provides basis for original restriction requirement.

9. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 19 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

WITHDRAWN REJECTIONS

10. The rejections of record in the previous Office Action mailed November 2, 2005 have all been withdrawn due to Applicant's amendment of claim 1 in Amdt. B.

NEW REJECTIONS

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The scope that Applicant intends to delineate in claim 2 cannot be ascertained since claim 2 recites that the pipe of claim 1 "additionally successively comprises... an outer layer formed from... (B)", but the scope of claim 1 is closed to solely the layers recited in claim 1 due to the "consisting" transitional phrase indicator in line 2 of claim 1.

Claim Rejections - 35 USC § 102

13. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

14. Claims 1-3, 9 and 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Quigley et al. (USPN 6,357,485).

In regard to claim 1, Quigley et al. teach an offshore flexible pipe (item 10, col. 1, lines 20-42 and col. 8, lines 43-50) consisting of an unsealed flexible inner layer (liner, item 12, col. 8, lines 51-62, Fig. 7) and outer sealing layers, in which the outer sealing layers are, in succession: an inner layer formed from at least one thermoplastic polymer comprising a polyamide (composite layer, item 14, which comprises fiber and a matrix, where nylon, which is polyamide, is a suitable material for both the fibers and the matrix, col. 10, lines 3-12 and 31-39 and col. 11, lines 3-8, and Fig. 7, and where aramid, which is also polyamide, is also a suitable material for the fiber (col. 10, lines 62-67 and Fig. 7)) and a polyolefin layer, item 58, where suitable materials for the polyolefin layer are polyethylene and polypropylene, both of which are polyolefins (col. 15, lines 38-44 and Fig. 7).

In regard to claim 2, Quigley et al. teach that the pipe comprises, outside the polyolefin layer, item 58, an outer layer formed from at least one thermoplastic polymer (item 14', col. 16, lines 51-67, col. 10, lines 3-12, 31-39 and 62-67 and col. 11, lines 3-8 and Fig. 8). Since Quigley et al. teach that the layers 14 and 14' need not be identical (col. 16, lines 51-67), the embodiment where inner layer, item 14, and outer layer, item 14', are different thermoplastic polymers, as recited by identification of the polymer of the inner layer as polymer (A) and by identification of the polymer of the outer layer as polymer (B) in Applicant's claims, falls within the scope of the teachings of Quigley et al. (col. 10, lines 3-12, 31-39 and 62-67 and col. 11, lines 3-8).

In regard to claim 3, Quigley et al. teach that thermoplastics such as polyamide (nylon) are suitable materials for the outer layer, item 14' (col. 16, lines 51-67, col. 10, lines 3-12, 31-39 and 62-67 and col. 11, lines 3-8)

In regard to claim 9, Quigley et al. teach that the unsealed flexible inner layer (liner, item 12, col. 8, lines 51-62) comprises a wound (coiled) metal strip (col. 8, lines 43-53 and col. 1, lines 20-27).

In regard to claim 11, Quigley et al. teach an offshore flexible pipe (item 10, col. 1, lines 20-42 and col. 8, lines 43-50) consisting of sealing layers, in succession: an inner layer formed from at least one thermoplastic polymer (liner, item 12), where thermoplastics such as polyamide are suitable materials for the inner layer (col. 8, line 51-62, col. 8, line 65-col. 9, line 14 and Fig. 4) and where the inner layer would be in contact with the fluid being transported in the pipe if fluid were being transported in the pipe (Fig. 4 and col. 8, lines 43-53), a coextrusion tie layer (item 56, col. 14, lines 3-9 and 29-41, col. 17, lines 39-50 [which discloses that the pipe can be formed of coextruded polymers] and Fig. 4) and a polyolefin layer (composite layer, item 14,

Fig. 4), where suitable materials for the composite layer are polyethylene and polypropylene (col. 10, lines 31-38 and col. 11, lines 3-7).

In regard to claim 12, Quigley et al. teach that thermoplastics such as polyamide are suitable materials for the inner layer, item 12 (col. 8, line 51-62, col. 8, line 65-col. 9, line 14).

In regard to claim 13, Quigley et al. teach an offshore flexible pipe (item 10, col. 1, lines 20-42 and col. 8, lines 43-50) consisting of sealing layers, in succession: an inner layer formed from at least one thermoplastic polymer (liner, item 12), where thermoplastics such as polyamide are suitable materials for the inner layer (col. 8, line 51-62, col. 8, line 65-col. 9, line 14 and Fig. 5) and where the inner layer would be in contact with the fluid being transported in the pipe if fluid were being transported in the pipe (Fig. 5 and col. 8, lines 43-53), a coextrusion tie layer (item 56, col. 14, lines 3-9 and 29-41, col. 17, lines 39-50 [which discloses that the pipe can be formed of coextruded polymers] and Fig. 5), a polyolefin layer (composite layer, item 14, Fig. 5), where suitable materials for the composite layer are polyethylene and polypropylene (col. 10, lines 31-38 and col. 11, lines 3-7), and an outer layer formed from at least one thermoplastic polymer (barrier layer, item 58) where suitable materials for the thermoplastic layer are thermoplastics such as polyethylene and polypropylene (col. 15, lines 38-44 and Fig. 5) the embodiment where inner layer (liner, item 12) and outer layer (barrier layer, item 58) are of different thermoplastic polymers, as recited by identification of the polymer of the inner layer as polymer (A) and by identification of the polymer of the outer layer as polymer (B) in Applicant's claims, falls within the scope of the teachings of Quigley et al. since inner layer (liner, item 12) and outer layer (barrier layer, item 58) are disclosed as separate layers that can comprise one of a

plurality of thermoplastic polymers (col. 8, line 51-62, col. 8, line 65-col. 9, line 14 and (col. 15, lines 38-44).

In regard to claim 14, Quigley et al. teach that thermoplastics such as polyamide are suitable materials for the outer layer (barrier layer, item 58) (col. 15, lines 38-44).

Claim Rejections - 35 USC § 103

15. Claims 4, 5, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quigley et al. (USPN 6,357,485) in view of Strassel et al. (USPN 5,601,893).

Quigley et al. teach the pipe as discussed above.

In regard to claims 4 and 15, Quigley et al. fail to explicitly teach that the polymers (A) and (B) are one of the polymers listed in claim 4.

Strassel et al., however, disclose a multilayered offshore flexible pipe (col. 1, lines 15-21 and col. 2, lines 55-63) that offers significant mechanical resistance especially to internal pressure thus permitting use of the pipe in offshore oil and gas production (col. 1, lines 15-21). Strassel et al. teach that polyamide is a suitable polymer for the outer layer, item 9, of the sheath (col. 5, lines 12-24) and specifically teach polyamide-11 (PA-11) as the polyamide of the outer layer, item 9 (col. 13, lines 20-40). Strassel et al. also teach that PA-11 does not blister or inflate when in contact with live crude and that plasticized PA-11 is leak-proof when used as the sheath material for flexible metal pipes (col. 2, lines 13-16 and 28-31). Therefore, one of ordinary skill in the art would have recognized to have used PA-11 as polyamides (A) and (B) of the pipe of Quigley et al. since PA-11 is a well known polyamide for use as the material of layers in a multilayered offshore flexible pipe that offers significant mechanical resistance especially to internal pressure thus permitting use of the pipe in offshore oil and gas production due to the fact

that PA-11 does not blister or inflate when in contact with live crude and that plasticized PA-11 is leak-proof when used as the sheath material for flexible metal pipes as taught by Strassel et al.

In regard to claims 5 and 16, Quigley et al. and Strassel et al. teach the pipe as discussed above in regard to claims 4 and 15.

Quigley et al. and Strassel et al. fail to explicitly teach that the pipe of Quigley et al., or the PA-11 of Strassel et al., actually contains a plasticizer.

Strassel et al., however, teach that plasticized PA-11 is leak-proof when used as the sheath material for flexible metal pipes (col. 2, lines 28-31). Therefore, one of ordinary skill in the art would have recognized to have added a plasticizer to the PA-11 of the pipe taught by Quigley et al. and Strassel et al. in order to render the pipe leak-proof when used as the sheath material for flexible metal pipes for use in oil or gas extraction as taught by Strassel et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added a plasticizer to the PA-11 of the pipe taught by Quigley et al. and Strassel et al. in order to render the pipe leak-proof when used as the sheath material for flexible metal pipes for use in oil or gas extraction as taught by Strassel et al.

16. Claims 6 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quigley et al. (USPN 6,357,485) in view of Roeber et al. (USPN 5,858,492).

In regard to claim 6, Quigley et al. teach the pipe as discussed above in regard to claim 1.

Quigley et al. fail to teach that the pipe comprises a tie layer in which the tie layer is a functionalized polyolefin carrying a carboxylic acid or carboxylic acid anhydride functional group.

Roeber et al., however, disclose a coupling (equivalently, tie) layer that couples a layer comprising a polyolefin molding composition layer to a layer comprising polyamide (col. 10, lines 41-54). Roeber et al. disclose that a suitable polymer for the coupling layer is a functionalized polyolefin carrying a carboxylic acid or carboxylic acid anhydride functional group (col. 5, lines 7-22 and 28-33) and that the coupling layer firmly bonds the polyolefin molding composition layer and the polyamide layer together (col. 10, line 54). Therefore, one of ordinary skill in the art would have recognized to have formed the pipe of Quigley et al. such that it has the tie layer of a functionalized polyolefin carrying a carboxylic acid or carboxylic acid anhydride functional group of Roeber et al. between the polyolefin layer and polyamide inner layer in order to firmly bond the polyolefin layer and polyamide inner layer together as taught by Roeber et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the pipe of Quigley et al. such that it has the tie layer of a functionalized polyolefin carrying a carboxylic acid or carboxylic acid anhydride functional group of Roeber et al. between the polyolefin layer and polyamide inner layer in order to firmly bond the polyolefin layer and polyamide inner layer together as taught by Roeber et al.

In regard to claim 17, Quigley et al. teach the pipe as discussed above in regard to claim 11.

Quigley et al. fail to teach that the tie layer is a functionalized polyolefin carrying a carboxylic acid or carboxylic acid anhydride functional group.

Roeber et al., however, disclose a coupling (equivalently, tie) layer that couples a layer comprising a polyolefin molding composition layer to a layer comprising polyamide (col. 10,

lines 41-54). Roeber et al. disclose that a suitable polymer for the coupling layer is a functionalized polyolefin carrying a carboxylic acid or carboxylic acid anhydride functional group (col. 5, lines 7-22 and 28-33) and that the coupling layer firmly bonds the polyolefin molding composition layer and the polyamide layer together (col. 10, line 54). Therefore, one of ordinary skill in the art would have recognized to have formed the pipe of Quigley et al. such the tie layer is a functionalized polyolefin carrying a carboxylic acid or carboxylic acid anhydride functional group of Roeber et al. that is located between the polyolefin layer and polyamide inner layer in order to firmly bond the polyolefin layer and polyamide inner layer together as taught by Roeber et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the pipe of Quigley et al. such the tie layer is a functionalized polyolefin carrying a carboxylic acid or carboxylic acid anhydride functional group of Roeber et al. that is located between the polyolefin layer and polyamide inner layer in order to firmly bond the polyolefin layer and polyamide inner layer together as taught by Roeber et al.

17. Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quigley et al. (USPN 6,357,485) in view of Hill.

Quigley et al. teach the pipe as discussed above. Quigley et al. teach polyethylene as a suitable material of the polyolefin layer.

Quigley et al. fail to explicitly teach that the polyethylene is high density polyethylene.

Hill, however, discloses a multilayer pipe that is used to carry petroleum or oil (col. 1, lines 1-10) that consists of a layer of high density polyethylene that is directly bonded to a layer of polyamide (col. 5, lines 36-40). Therefore, one of ordinary skill in the art would have

recognized to have used high density polyethylene as the polyethylene of the polyolefin layer of Quigley et al. since high density polyethylene is a known suitable material for use in a layer of a multilayer pipe that is used to carry petroleum or oil as taught by Hill.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used high density polyethylene as the polyethylene of the polyolefin layer of Quigley et al. since high density polyethylene is a known suitable material for use in a layer of a multilayer pipe that is used to carry petroleum or oil as taught by Hill.

18. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quigley et al. (USPN 6,357,485) in view of Flepp et al. (USPN 6,555,243).

Quigley et al. teach the pipe as discussed above. Quigley et al. teach that suitable materials for the inner layer (composite layer, item 14) of the sealing layers are thermoplastic polymers such as polyamide (nylon-6) and polyethylene and polypropylene (which are both polyolefins) (col. 11, lines 3-7 and col. 10, lines 31-39).

Quigley et al. fail to explicitly teach that the material of the inner layer (composite layer, item 14) of the sealing layers is a blend of a polyamide and a polyolefin having a polyamide matrix.

Flepp et al., however, disclose a multilayer pipe (col. 1, lines 6-9 and col. 5, lines 18-36) comprising an inner layer comprising a blend of a polyamide and a polyolefin having a polyamide matrix (the adhesion-promoting layer of Flepp et al. that is made from a mixture of a polyamide and a compatibilizer is a layer comprising a blend of a polyamide and a polyolefin having a polyamide matrix since the compatibilizer is a polyolefin, col. 5, lines 28-29 and col. 6, lines 50-57). Therefore, one of ordinary skill in the art would have recognized to have used the

blend of a polyamide and a polyolefin having a polyamide matrix taught by Flepp et al. as the mixture of the inner layer since a blend of a polyamide and a polyolefin having a polyamide matrix is a well known adhesion-promoting material for use as the material of an inner layer of a multilayer hose as taught by Flepp et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the blend of a polyamide and a polyolefin having a polyamide matrix taught by Flepp et al. as the mixture of the inner layer since a blend of a polyamide and a polyolefin having a polyamide matrix is a well known adhesion-promoting material for use as the material of an inner layer of a multilayer hose as taught by Flepp et al.

Response to Arguments

19. Applicant's arguments regarding the various rejections of record in the previous Office Action mailed November 2, 2005 are moot due to the withdrawal of these rejections in this Office Action.

Conclusion

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is (571) 272-1488. While the examiner sets his work schedule under the Increased Flexitime Policy, he can normally be reached on Monday-Friday from 8:45am to 5:15pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Walter B. Aughenbaugh
01/22/07

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01/22/07